

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start		Rating **	A	Issue No.	3
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Operations & Maintenance Manuals			°	°
				°	°
DWR ID	DWR_NA0008_01_s_2017_3				
Comment Code					
Inspector Comment					
District has levee O&M manuals.					

No Photos

LM Start		Rating **	A	Issue No.	8
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Emergency Supplies & Equipment			°	°
				°	°
DWR ID	DWR_NA0008_01_s_2013_8				
Comment Code					
Inspector Comment					
District maintains a stockpile of flood fight response material.					

No Photos

LM Start		Rating **	A	Issue No.	9
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Flood Preparedness & Training			°	°
				°	°
DWR ID	DWR_NA0008_01_s_2013_9				
Comment Code					
Inspector Comment					
District has written response plan and regular flood fight training.					

No Photos

*** Location**
LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**
A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type
Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

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Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	0.25	Rating **	A/W	Issue No.	32
LM End	0.25	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.722222°	38.722222°
				-121.666357°	-121.666357°
DWR ID	19360				
Comment Code					
Inspector Comment					
FS_ID:48010 DS_ID:19360 EP_NO: 9302 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: Pipe has been grouted in place under permit 18987, 2015Pipe completely rusted through on LS slope of levee at toe/headwall of concrete distribution box. Pipe needs replacement or proper abandonment. Pipe not visible at outlet. FIELD_STRUCT_DESC: *ABANDONED* 36-inch corrugated metal drainage pipe through the levee, 27 feet below the crown. Slide gate on the waterside (WS) end. 12-foot by 6-foot concrete box on the landside (LS) end. (36-inch pipe [HLM 1.62] authorized under Automatic Board Order (ABO) issued as Permit No. 9302, 1974 - Barbara Lowe Elliott; 36-inch pipe abandoned by removing ends and pumping pipe full of concrete under Permit No. 18987, 2016 - Knaggs Ranch, LLC, care of John Brennan). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 0+30)]. FS Date: 5/16/2016 3:59:29 PM					

LM Start	0.25	Rating **	A/W	Issue No.	32 (cont)
LM End	0.25	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_48010_21582.jpg



Concrete distribution box on LS toe.

Photo 2 of 3 : UCIP_FA_2018_48010_21581.jpg



Slide gate on metal stand on WS toe. Pipe opening not visible.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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LM Start	0.25	Rating **	A/W	Issue No.	32 (cont)
LM End	0.25	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.722222 °	38.722222 °
				-121.666357 °	-121.666357 °
DWR ID	19360				
Comment Code					
Inspector Comment					
FS_ID:48010 DS_ID:19360 EP_NO: 9302 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: Pipe has been grouted in place under permit 18987, 2015Pipe completely rusted through on LS slope of levee at toe/headwall of concrete distribution box. Pipe needs replacement or proper abandonment. Pipe not visible at outlet. FIELD_STRUCT_DESC: *ABANDONED* 36-inch corrugated metal drainage pipe through the levee, 27 feet below the crown. Slide gate on the waterside (WS) end. 12-foot by 6-foot concrete box on the landside (LS) end. (36-inch pipe [HLM 1.62] authorized under Automatic Board Order (ABO) issued as Permit No. 9302, 1974 - Barbara Lowe Elliott; 36-inch pipe abandoned by removing ends and pumping pipe full of concrete under Permit No. 18987, 2016 - Knaggs Ranch, LLC, care of John Brennan). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 0+30)]. FS Date: 5/16/2016 3:59:29 PM					

Photo 3 of 3 : UCIP_FA_2018_48010_21580.jpg



Pipe failure at connection to concrete box on LS toe.

LM Start	2.23	Rating **	M	Issue No.	23
LM End	2.23	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.742899 °	38.742899 °
				-121.690897 °	-121.690897 °
DWR ID	DWR_NA0008_01_f_2018_23				
Comment Code					
CR1 : Monitor and have inspected by geotechnical engineer.					
Inspector Comment					
50' crack on the crown at previous sloughing site. There appears to be no bulge or sloughing on the landside slope. Slight settlement on the crown. Recommend monitoring.					

Photo 1 of 1 : FA_2018_NA0008_256_23_20181012_00044.jpg



View of crack and settlement on the crown. Fall 2018.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.58	Rating **	M	Issue No.	36	
LM End	2.58	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			38.747110 °	38.747110 °	
				-121.694415 °	-121.694415 °	
DWR ID	19364					
Comment Code						
Inspector Comment						
FS_ID:11067 DS_ID:19364 EP_NO: 9307 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Siphon breaker on LS burried or broken off and missing. FIELD_STRUCT_DESC: 1 of 2: 14-inch steel drainage pipe through the levee, 5.4 feet below the crown. Pump house on a pile structure at the landside (LS) toe. Siphon breaker on the LS slope. Service pole and anchor at the LS toe. (14-inch pipe [HLM 2.62] authorized under Automatic Board Order (ABO) issued as Permit No. 9307, 1974 - Azalene E. Lowe; a 12-foot section of an existing 14-inch pipe on LS replaced and name change under Permit No. 9307-1, 2016 - Ann Grube). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 123+25)]. FS Date: 4/5/2013						

Photo 1 of 1 : UCIP_FA_2018_11067_18431.jpg



Pump and pipe on LS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.58	Rating **	M	Issue No.	37	
LM End	2.58	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			38.747204 °	38.747204 °	
				-121.694440 °	-121.694440 °	
DWR ID	19391					
Comment Code						
Inspector Comment						
FS_ID:13205 DS_ID:19391 EP_NO: 9307 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Walkway to actuator slide gate is missing. No method of actuating slide gate. FIELD_STRUCT_DESC: 2 of 2: 48-inch by 48-inch reinforced concrete box drainage culvert through the levee, 23 feet below the crown. Walkway to slide gate on the waterside (WS) end. Concrete headwalls on both ends. Service pole and anchor at the landside (LS) toe. Concrete headwalls on both ends. (four foot by four foot culvert [HLM 2.62] authorized under Automatic Board Order (ABO) issued as Permit No. 9307, 1974 - Azalene E. Lowe). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 123+55.5)]. FS Date: 4/5/2013						

Photo 1 of 3 : UCIP_FA_2018_13205_21602.jpg



Slide gate and concrete headwall on WS toe.

LM Start	2.58	Rating **	M	Issue No.	37 (cont)
LM End	2.58	Issue Type +	Ma	Location *	

Photo 2 of 3 : UCIP_FA_2018_13205_21601.jpg



Concrete inlet on LS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.58	Rating **	M	Issue No.	37 (cont)	
LM End	2.58	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			38.747204 °	38.747204 °	
				-121.694440 °	-121.694440 °	
DWR ID	19391					
Comment Code						
Inspector Comment						
FS_ID:13205						
DS_ID:19391						
EP_NO: 9307						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: Walkway to actuator slide gate is missing. No method of actuating slide gate.						
FIELD_STRUCT_DESC: 2 of 2: 48-inch by 48-inch reinforced concrete box drainage culvert through the levee, 23 feet below the crown.						
Walkway to slide gate on the waterside (WS) end. Concrete headwalls on both ends. Service pole and anchor at the landside (LS) toe.						
Concrete headwalls on both ends. (four foot by four foot culvert [HLM 2.62] authorized under Automatic Board Order (ABO) issued as Permit No. 9307, 1974 - Azalene E. Lowe). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 123+55.5)].						
FS Date: 4/5/2013						

Photo 3 of 3 : UCIP_FA_2018_13205_21605.jpg



Inlet located next to concrete headwall on LS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.67	Rating **	A/W	Issue No.	38
LM End	2.67	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.748391 °	38.748391 °
				-121.694814 °	-121.694814 °
DWR ID	19365				
Comment Code					
Inspector Comment					
FS_ID:16105					
DS_ID:19365					
EP_NO: 9301					
Repair Type: No Action Needed					
Crossing Status: Found					
UCIP Comments:					
FIELD_STRUCT_DESC: 1 of 2: 18-inch steel drainage pipe through the levee, 6.4 feet below the crown. Siphon breaker on the waterside (WS) slope. Pump house mounted on concrete box in irrigation ditch at the landside (LS) toe. (one 18-inch and one 24-inch pipes [HLM 2.7] authorized under Automatic Board Order (ABO) issued as Permit No. 9301, 1974 - Reclamation District No. 730). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 128+00)].					
FS Date: 4/5/2013					

LM Start	2.67	Rating **	A/W	Issue No.	38 (cont)
LM End	2.67	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_16105_27207.jpg



Pipe on WS slope.

Photo 2 of 3 : UCIP_FA_2018_16105_27209.jpg



Pumphouse and pipe on LS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.67	Rating **	A/W	Issue No.	39 (cont)
LM End	2.67	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.748404 °	38.748404 °
				-121.694818 °	-121.694818 °
DWR ID	19392				
Comment Code					
Inspector Comment					
FS_ID:16106 DS_ID:19392 EP_NO: 9301 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: FIELD_STRUCT_DESC: 2 of 2: 24-inch steel drainage pipe through the levee, 7.3 feet below the crown. Pump house mounted on concrete box in irrigation ditch at the landside (LS) toe. Siphon breaker in riser on the waterside (WS) slope. (one 24-inch and one 18-inch pipes [HLM 2.7] authorized under Automatic Board Order (ABO) issued as Permit No. 9301, 1974 - Reclamation District No. 730). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 128+00)]. FS Date: 4/5/2013					

LM Start	2.67	Rating **	A/W	Issue No.	39 (cont)
LM End	2.67	Issue Type +	Ma	Location *	

Photo 2 of 3 : UCIP_FA_2018_16106_27212.jpg



Siphon breaker on WS slope

Photo 3 of 3 : UCIP_FA_2018_16106_27214.jpg



Pipe on WS slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	3.36	Rating **	M	Issue No.	19
LM End	3.44	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.758432 °	38.759332 °
				-121.695158 °	-121.696063 °
DWR ID	DWR_NA0008_01_f_2018_19				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 3.5 R					
Status: Eroding					
2017 Field Notes: Access Issues - Could not observe					
Site History: 2011 - Toe scour and bank slumping.					

No Photos

LM Start	3.50	Rating **	M	Issue No.	20
LM End	3.50	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.759910 °	38.759910 °
				-121.696920 °	-121.696920 °
DWR ID	DWR_NA0008_01_f_2015_20				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					

Photo 1 of 2 : FA_2018_NA0008_256_20_20180904_00005.jpg



Updated view of erosion on the waterside slope. Spring 2018.

LM Start	3.50	Rating **	M	Issue No.	20 (cont)
LM End	3.50	Issue Type +	Ma	Location *	WS

Photo 2 of 2 : FA_2018_NA0008_256_20_20180904_00006.jpg



View of the erosion on the waterward side of the levee looking upstream. Fall 2015.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

LM Start	3.78	Rating **	M	Issue No.	30
LM End	3.78	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.762886 °	38.762886 °
				-121.700406 °	-121.700406 °
DWR ID	DWR_NA0008_01_s_2017_30				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					
Hole is at the toe of the levee on the waterward side.					

Photo 1 of 1 : FA_2018_NA0008_256_30_20180904_00010.jpg



View of the erosion at the toe of the levee on the waterward side. Spring 2016.

LM Start	3.86	Rating **	M	Issue No.	31
LM End	3.86	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.763751 °	38.763751 °
				-121.701398 °	-121.701398 °
DWR ID	DWR_NA0008_01_s_2018_31				
Comment Code					
E1 : Note and monitor erosion site.					
Inspector Comment					
Erosion at the toe of the levee. LMA is monitoring erosion with stakes.					

Photo 1 of 1 : FA_2018_NA0008_256_31_20180904_00011.jpg



View of the erosion at the toe of the levee on the waterward side. Spring 2016.

LM Start	3.88	Rating **	M	Issue No.	21
LM End	3.95	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.764037°	38.764905°
				-121.701434°	-121.702074°
DWR ID	DWR_NA0008_01_f_2018_21				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 3.9 R					
Status: Eroding					
2017 Field Notes: Access Issues - Could not observe					
Site History: 2011 - Toe erosion and erosion pockets from tree popouts. More tree popouts are expected due to the eroding toe.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/12/2018 10/12/2018	Zach Jojola

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	1.89	Rating **	A/W	Issue No.	24
LM End	1.89	Issue Type +	Ma	Location *	
Category	Supplemental		GPS Latitude/Longitude		
			Start	End	
Item	DWR UCIP LMA Responsibility		38.743768 °	38.743768 °	
			-121.689185 °	-121.689185 °	
DWR ID	19371				

Comment Code

Inspector Comment

FS_ID:52538
DS_ID:19371
EP_NO: 9320
Repair Type: No Action Needed
Crossing Status: Found
UCIP Comments: 09/27/2017 see dsid 25471 for details on new pipe installed. (DWR UCIP - O. Magana)09/01/2016 Pipe has been removed and replaced during the Knights Landing 2015 Levee Repair Project. (T. Hatch/UCIP) 04/08/2013 Pipe at flap gate rusted through at WS toe. Flap gate does not function properly. (W. Wylie/UCIP) FIELD_STRUCT_DESC: *REMOVED* 1 of 2: 12-inch steel drainage pipe through the levee, 4 feet below the crown. Flap gate on the waterside (WS). Pipe is resting on a concrete headwall associated with another pipe. Siphon breaker in a 2-inch corrugated metal pipe (CMP) riser on the landside (LS) shoulder. Vertical pump unit on a concrete foundation in the irrigation ditch at the LS toe. (12-inch pipe [HLM 1.90] authorized under Automatic Board Order (ABO) issued as Permit No. 9320, 1974 - Ralph W. Pollock). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 103+21.8)].
FS Date: 9/16/2016 1:33:00 PM

LM Start	1.89	Rating **	A/W	Issue No.	24 (cont)
LM End	1.89	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_52538_18706.jpg



12-inch pipe at concrete headwall on WS toe.

Photo 2 of 3 : UCIP_FA_2018_52538_18705.jpg



Pipe rusted through at flap gate on WS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	1.89	Rating **	A/W	Issue No.	24 (cont)
LM End	1.89	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.743768 °	38.743768 °
				-121.689185 °	-121.689185 °
DWR ID	19371				

Comment Code

Inspector Comment

FS_ID:52538

DS_ID:19371

EP_NO: 9320

Repair Type: No Action Needed

Crossing Status: Found

UCIP Comments: 09/27/2017 see dsid 25471 for details on new pipe installed. (DWR UCIP - O. Magana)09/01/2016 Pipe has been removed and replaced during the Knights Landing 2015 Levee Repair Project. (T. Hatch/UCIP) 04/08/2013 Pipe at flap gate rusted through at WS toe. Flap gate does not function properly. (W. Wylie/UCIP) FIELD_STRUCT_DESC: *REMOVED* 1 of 2: 12-inch steel drainage pipe through the levee, 4 feet below the crown. Flap gate on the waterside (WS). Pipe is resting on a concrete headwall associated with another pipe. Siphon breaker in a 2-inch corrugated metal pipe (CMP) riser on the landside (LS) shoulder. Vertical pump unit on a concrete foundation in the irrigation ditch at the LS toe. (12-inch pipe [HLM 1.90] authorized under Automatic Board Order (ABO) issued as Permit No. 9320, 1974 - Ralph W. Pollock). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 103+21.8)].

FS Date: 9/16/2016 1:33:00 PM

Photo 3 of 3 : UCIP_FA_2018_52538_18704.jpg



Pumphouse on concrete platform on LS toe with JP.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	1.90	Rating **	A/W	Issue No.	25
LM End	1.90	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.743775 °	38.743775 °
				-121.689190 °	-121.689190 °
DWR ID	19399				
Comment Code					
Inspector Comment					
FS_ID:11305 DS_ID:19399 EP_NO: 9320 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: FIELD_STRUCT_DESC: 2 of 2: 24-inch steel drainage pipe through the levee, 21 feet below the crown. Slide gate on the waterside (WS) end. Open on the landside (LS) end. LS toe cobble revetted. Service pole on the LS slope. (24-inch pipe [HLM 1.9] authorized under Automatic Board Order (ABO) issued as Permit No. 9320, 1974 - Ralph W. Pollock). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 103+21.8)]. FS Date: 4/9/2013					

LM Start	1.90	Rating **	A/W	Issue No.	25 (cont)
LM End	1.90	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_11305_18703.jpg



Pipe inlet located beneath pumphouse on LS toe.

Photo 2 of 3 : UCIP_FA_2018_11305_18702.jpg



Slide gate at headwall on WS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	1.90	Rating **	A/W	Issue No.	25 (cont)	
LM End	1.90	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			38.743775 °	38.743775 °	
				-121.689190 °	-121.689190 °	
DWR ID	19399					
Comment Code						
Inspector Comment						
FS_ID:11305						
DS_ID:19399						
EP_NO: 9320						
Repair Type: No Action Needed						
Crossing Status: Found						
UCIP Comments:						
FIELD_STRUCT_DESC: 2 of 2: 24-inch steel drainage pipe through the levee, 21 feet below the crown. Slide gate on the waterside (WS) end. Open on the landside (LS) end. LS toe cobble revetted. Service pole on the LS slope. (24-inch pipe [HLM 1.9] authorized under Automatic Board Order (ABO) issued as Permit No. 9320, 1974 - Ralph W. Pollock). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 103+21.8)].						
FS Date: 4/9/2013						

Photo 3 of 3 : UCIP_FA_2018_11305_18701.jpg



Slide gate at headwall on WS toe.

LM Start	2.72	Rating **	A/W	Issue No.	8	
LM End	2.93	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	2017 USACE Erosion Survey, DRAFT			38.754899 °		38.757925 °
				-121.692653 °		-121.693048 °
DWR ID	DWR_NA0008_02_f _ 2018_8					
Comment Code						
Inspector Comment						
2017 Site ID: KLR 3.0 L						
Status: Eroding						
2017 Field Notes: Access Issues - Could not observe						
Site History: 2006 - The whole levee toe area is slowly slumping into the channel (creep) due to dewatering and poor slope soils. Occasional piping in the levee slope evident as well. Pistol-butted trees at the levee toe indicate slow retreat. 2011 - Multiple scallops throughout the site and slumping of the toe.						

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	2.98	Rating **	M	Issue No.	9
LM End	3.11	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.758587 °	38.760053 °
				-121.693359 °	-121.694686 °
DWR ID	DWR_NA0008_02_f_2018_9				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 3.1 L					
Status: Eroding					
2017 Field Notes: Access Issues - Could not observe					
Site History: 2006 - The whole levee toe area is slowly slumping into the channel (creep) due to dewatering and poor slope soils. Occasional piping in the levee slope evident as well. Pistol-butted trees at the levee toe indicate slow retreat. 2011 - Slumping of the levee toe.					

LM Start	2.98	Rating **	M	Issue No.	9 (cont)
LM End	3.11	Issue Type +	Ma	Location *	WS

Photo 1 of 2 : FA_2018_NA0008_257_9_20181012_00025.jpg



View of the erosion on the waterside slope. Fall 2018.

Photo 2 of 2 : FA_2018_NA0008_257_9_20181012_00024.jpg



View of the opening within the center channel. Fall 2018.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	3.31	Rating **	A/W	Issue No.	14
LM End	3.31	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.762301 °	38.762301 °
				-121.697190 °	-121.697190 °
DWR ID	DWR_NA0008_02_f_2018_14				
Comment Code					
E1 : Note and monitor erosion site.					
Inspector Comment					
The primary channel changes course throughout the water year and erodes the slope through an opening in the center barrier. The slope appears to be stable and erosion is not within the prism. The levee is further reinforced by the newly constructed berm on the land side. Recommend monitoring.					

Photo 1 of 2 : FA_2018_NA0008_257_14_20181012_00022.jpg



View of erosion on the waterside slope. Fall 2018.

LM Start	3.31	Rating **	A/W	Issue No.	14 (cont)
LM End	3.31	Issue Type +	Ma	Location *	WS

Photo 2 of 2 : FA_2018_NA0008_257_14_20181012_00023.jpg



View of the opening within the mail channel, facing upstream. Fall 2018.

LM Start	3.60	Rating **	A/W	Issue No.	10
LM End	3.73	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.765522 °	38.767336 °
				-121.700608 °	-121.701023 °
DWR ID	DWR_NA0008_02_f_2018_10				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 3.7 L					
Status: Eroding					
2017 Field Notes: Access Issues - Could not observe					
Site History: 2011 - The toe has eroded away and there are a few scallops from bank slumping.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	3.93	Rating **	A/W	Issue No.	28
LM End	3.93	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			38.770317 °	38.770317 °
				-121.701281 °	-121.701281 °
DWR ID	19374				
Comment Code					
Inspector Comment					
FS_ID:11293 DS_ID:19374 EP_NO: 9317 Repair Type: No Action Needed Crossing Status: Found UCIP Comments: FIELD_STRUCT_DESC: 1 of 2: 16-inch steel discharge pipe through the levee, 3 feet below the crown. Pump house on pile structure in drainage ditch on the landside (LS). Siphon breaker on the pipe on the waterside (WS). Service pole at the pump house. (16-inch pipe [HLM 3.97] authorized under Automatic Board Order (ABO) issued as Permit No. 9317, 1974 - Reclamation District No. 819). [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 211+05) (15-inch pipe listed)]. FS Date: 4/9/2013					

LM Start	3.93	Rating **	A/W	Issue No.	28 (cont)
LM End	3.93	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_FA_2018_11293_18675.jpg



Pump on LS toe.

Photo 2 of 3 : UCIP_FA_2018_11293_18674.jpg



Pump and pipes on LS toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Knights Landing Ridge Drainage District

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	3.94	Rating **	A/W	Issue No.	29 (cont)	
LM End	3.94	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP LMA Responsibility			38.770335 °		38.770335 °
				-121.701286 °		-121.701286 °
DWR ID	19401					
Comment Code						
Inspector Comment						
FS_ID:11291						
DS_ID:19401						
EP_NO: 9317						
Repair Type: No Action Needed						
Crossing Status: Found						
UCIP Comments:						
FIELD_STRUCT_DESC: 2 of 2: 24-inch steel discharge pipe through the levee, 9 feet below the crown. Pump house on pile structure in drainage ditch on the landside (LS). Siphon breaker on the pipe on the waterside (WS) with a butterfly shutoff valve. Service pole at the pump house. (Permit No. 9317, 1974 - Reclamation District No. 819). Pipe replaced in 2012. [Additional Reference(s): DWR Levee Log, 1990. USACE Sacramento O&M Manual 127, June 1953, (Station 210+99)].						
FS Date: 4/9/2013						

Photo 2 of 3 : UCIP_FA_2018_11291_18668.jpg



Pipe in grass on WS shoulder.

LM Start	3.94	Rating **	A/W	Issue No.	29 (cont)
LM End	3.94	Issue Type +	Ma	Location *	

Photo 3 of 3 : UCIP_FA_2018_11291_18667.jpg



Siphon breaker and butterfly valve on WS shoulder.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	4.30	Rating **	A/W	Issue No.	11
LM End	4.55	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.775271 °	38.778115 °
				-121.703685 °	-121.706195 °
DWR ID	DWR_NA0008_02_f_2018_11				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 4.7 L					
Status: Eroding					
2017 Field Notes: Access Issues - Could not observe					
Site History: 2011 - This site is the downstream section of the old KLR					
5.3L site. Levee toe is slowly retreating. Cracking on top of the levee					
may indicate potential mass movement.					

No Photos

LM Start	4.53	Rating **	C	Issue No.	15
LM End	4.56	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.778120 °	38.778437 °
				-121.705754 °	-121.706050 °
DWR ID	DWR_NA0008_02_s_2018_15				
Comment Code					
CR1 : Monitor and have inspected by geotechnical engineer.					
Inspector Comment					
150' long and 1" wide crack that has swelled up from the rain. RD 108 has the crack flagged and continues to monitor.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/12/2018 10/12/2018	Zach Jojola

LM Start	5.36	Rating **	A/W	Issue No.	12
LM End	5.93	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 USACE Erosion Survey, DRAFT			38.786566 °	38.792395 °
				-121.716724 °	-121.724091 °
DWR ID	DWR_NA0008_02_f_2018_12				
Comment Code					
Inspector Comment					
2017 Site ID: KLR 5.8 L					
Status: Eroding					
2017 Field Notes: Hummocky levee, with multiple slump failures and tree popouts.					
Site History: 2011 - This site is the upstream section of the old KLR 5.3L site. Levee toe is slowly retreating. Cracking on top of the levee may indicate potential mass movement.					

No Photos

LM Start	5.71	Rating **	A/W	Issue No.	13
LM End	5.71	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			38.790352 °	38.790352 °
				-121.721124 °	-121.721124 °
DWR ID	DWR_NA0008_02_f_2018_13				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Rodent holes on the landside slope.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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